

NOAA Climate Science & Services

Monthly Climate Update

A look back at October and the Year-to-Date

A preview of December-February

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Climate Scientist

NOAA's National Climatic Data Center

Deke Arndt

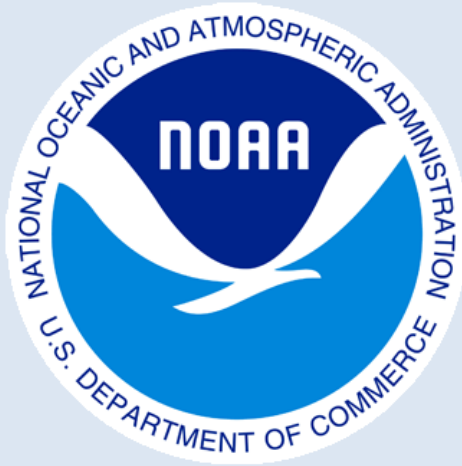
Chief, Climate Monitoring Branch

NOAA's National Climatic Data Center

David Unger

Seasonal Forecaster

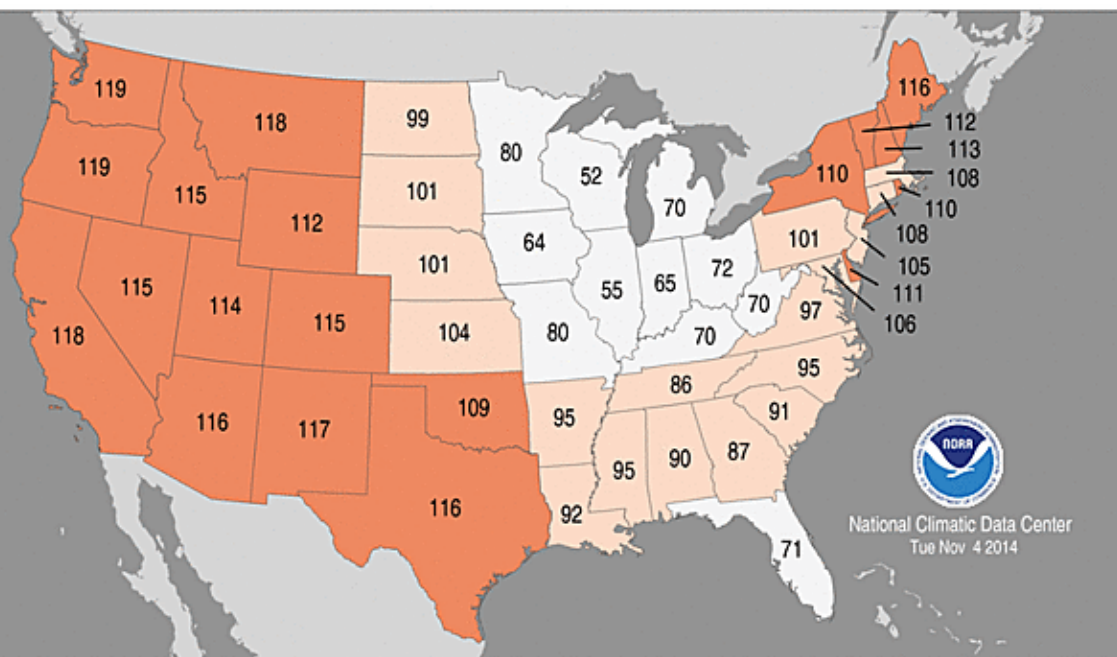
NOAA's Climate Prediction Center



U.S. October 2014 Temperature

Contiguous U.S: 57.1°F, 3.0°F above 20th century average
4th warmest October on record, warmest since 1963

Statewide Temperature Ranks, October 2014
Period: 1895-2014 (120 years)

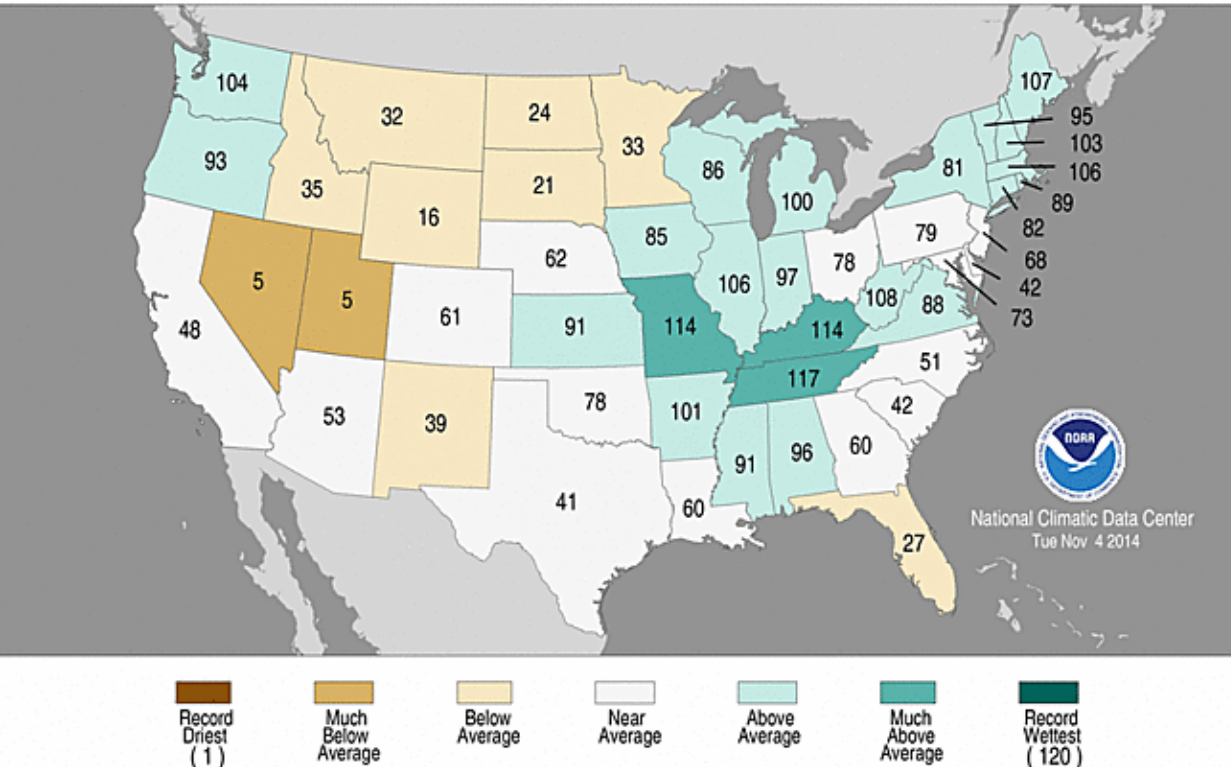


- Above-average across much of the country
 - 15 states had a top 10 warm October across the West, Southern Plains, and Northeast.
- West Coast locations were record warm
 - Seattle, WA
 - Portland, OR
 - Monterey, CA

U.S. October 2014 Precipitation

Contiguous U.S: 2.33 inches, 0.17 inches above 20th century average
Ranked near median value in 120-year record; masked regional extremes

Statewide Precipitation Ranks, October 2014
Period: 1895-2014 (120 years)

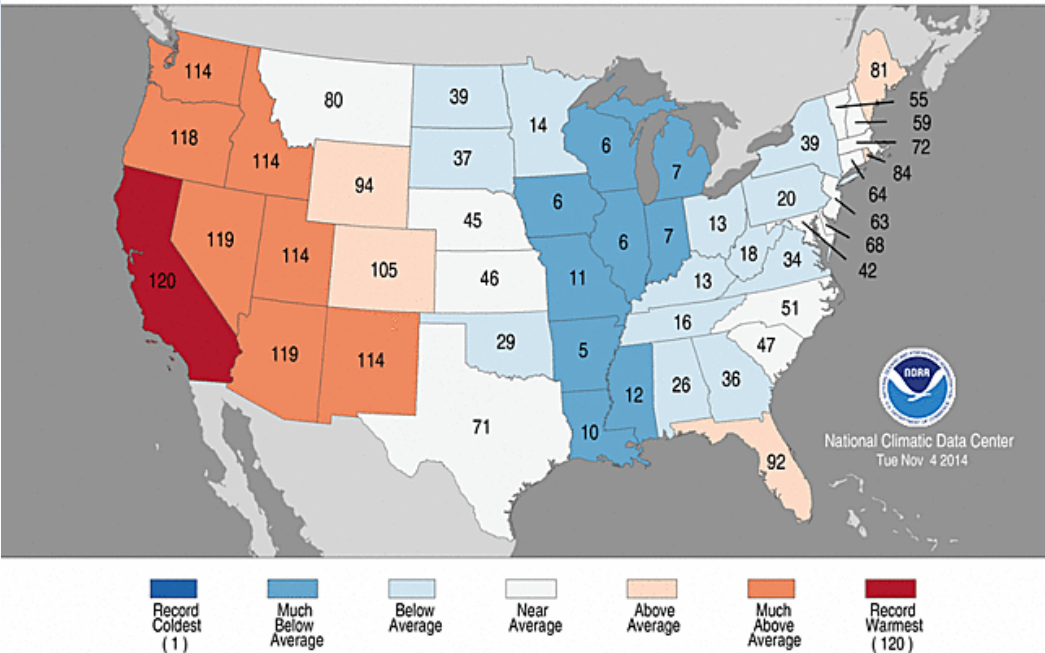


- Wet in the Northwest, Midwest, Northeast.
 - KY, MO, and TN were top 10 wet.
- Dry in the Northern Plains/Rockies and Great Basin.
 - NV and UT had their 5th wettest October.
 - Remnants of Hurricane Simon boosted precipitation for the Southwest.
- Snow cover extent slightly below average.

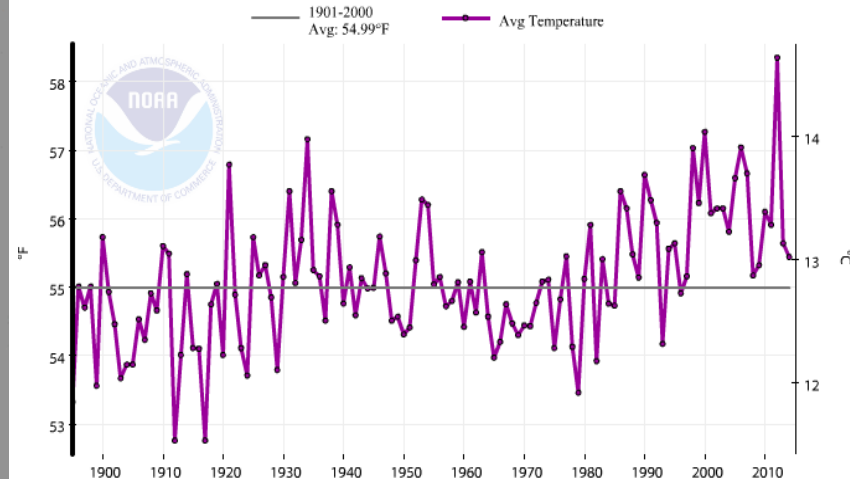
U.S. Temperature: Jan-Oct 2014

- **Contiguous U.S:** 55.4°F; 0.5°F above 20th century avg; Top 40 warm year-to-date

Statewide Average Temperature Ranks
January–October 2014
Period: 1895–2014



Contiguous U.S. Average Temperature, Jan-Oct



- Coldest year-to-date since 2009 for CONUS, with a warm West and cold East.
- California: 63.8°F, +4.2°F above 20th century average, +1.6°F above the previous record warm Jan-Oct. It is virtually certain CA will have its warmest year.

Current U.S. Drought

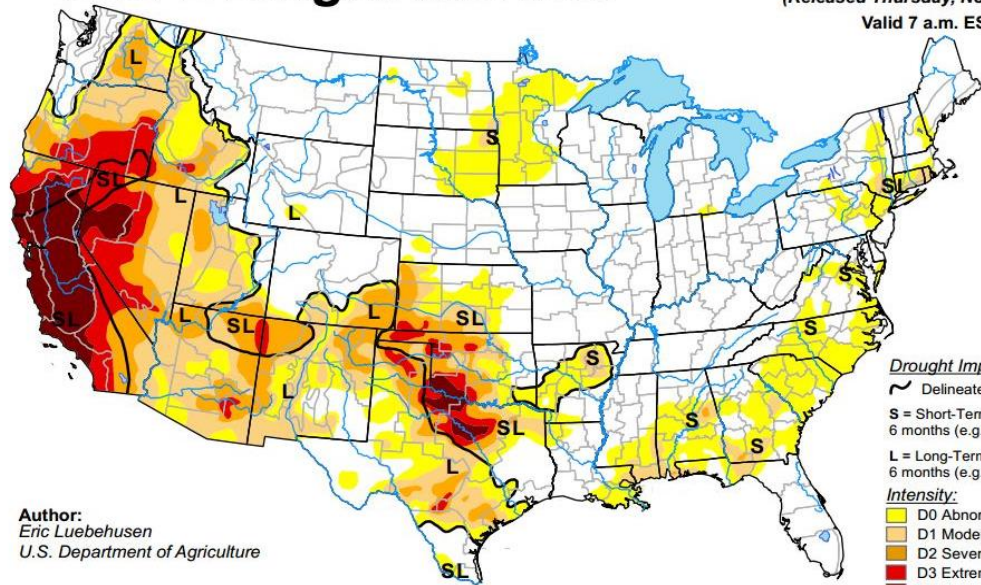
29.5% of Contiguous U.S. in Drought

(↓1% since beginning of October)

- **Improvement:** Parts of the Central and Southern Plains, Northeast, and Hawaii
- **Degradation:** Upper Midwest and Southeast
- **Status quo:** The West and parts of the Southern Plains

U.S. Drought Monitor

November 18, 2014
(Released Thursday, Nov. 20, 2014)
Valid 7 a.m. EST



Author:
Eric Luebbehusen
U.S. Department of Agriculture

Drought Impact Types:

~ Delineates dominant impacts

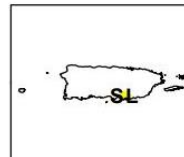
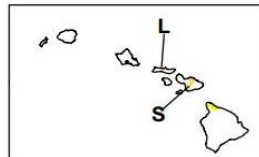
S = Short-Term, typically less than 6 months (e.g. agriculture, grasslands)

L = Long-Term, typically greater than 6 months (e.g. hydrology, ecology)

Intensity:

D0 Abnormally Dry
D1 Moderate Drought
D2 Severe Drought
D3 Extreme Drought
D4 Exceptional Drought

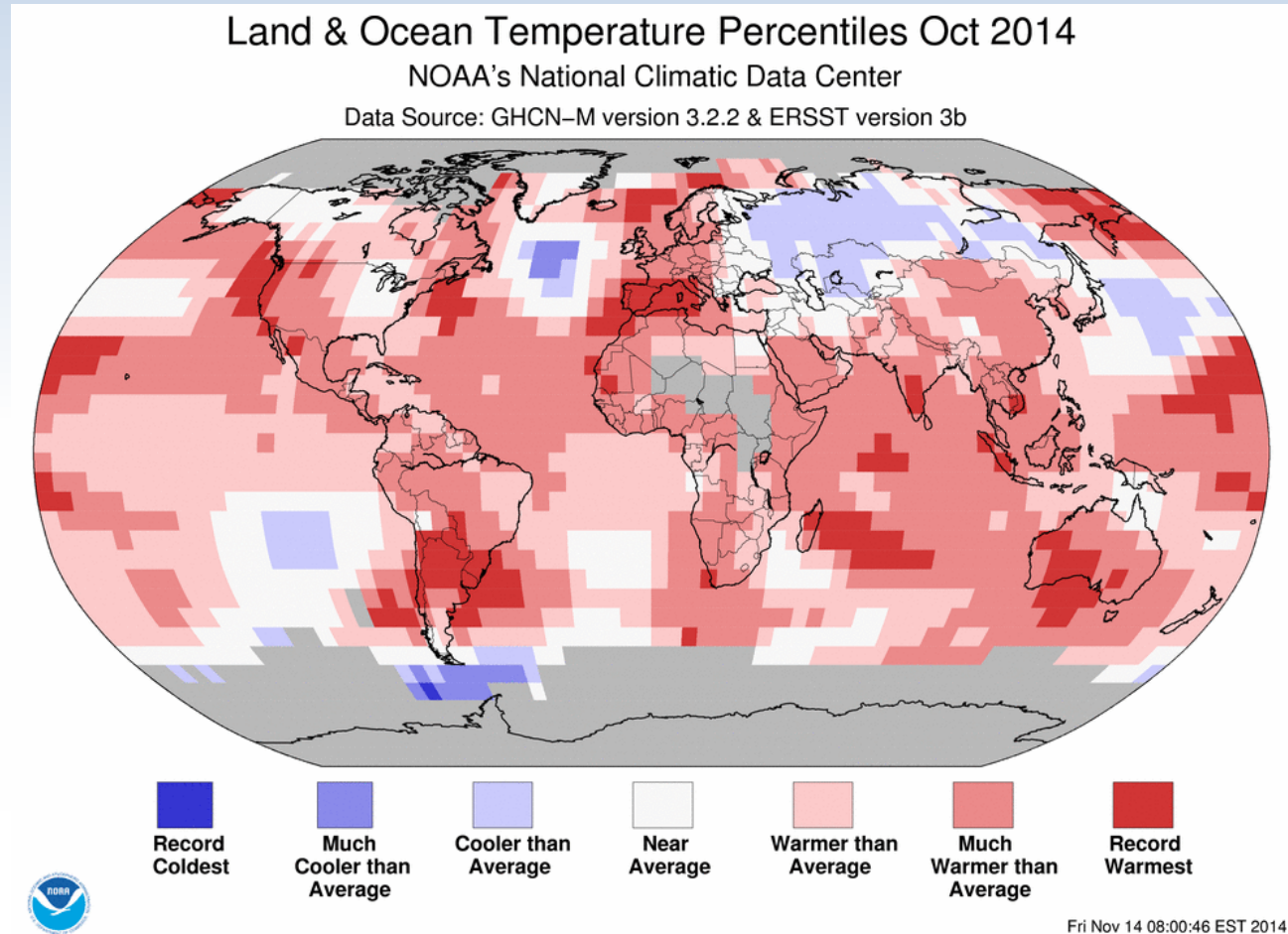
The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. See accompanying text summary for forecast statements.



<http://droughtmonitor.unl.edu/>

Global Temperature: October 2014

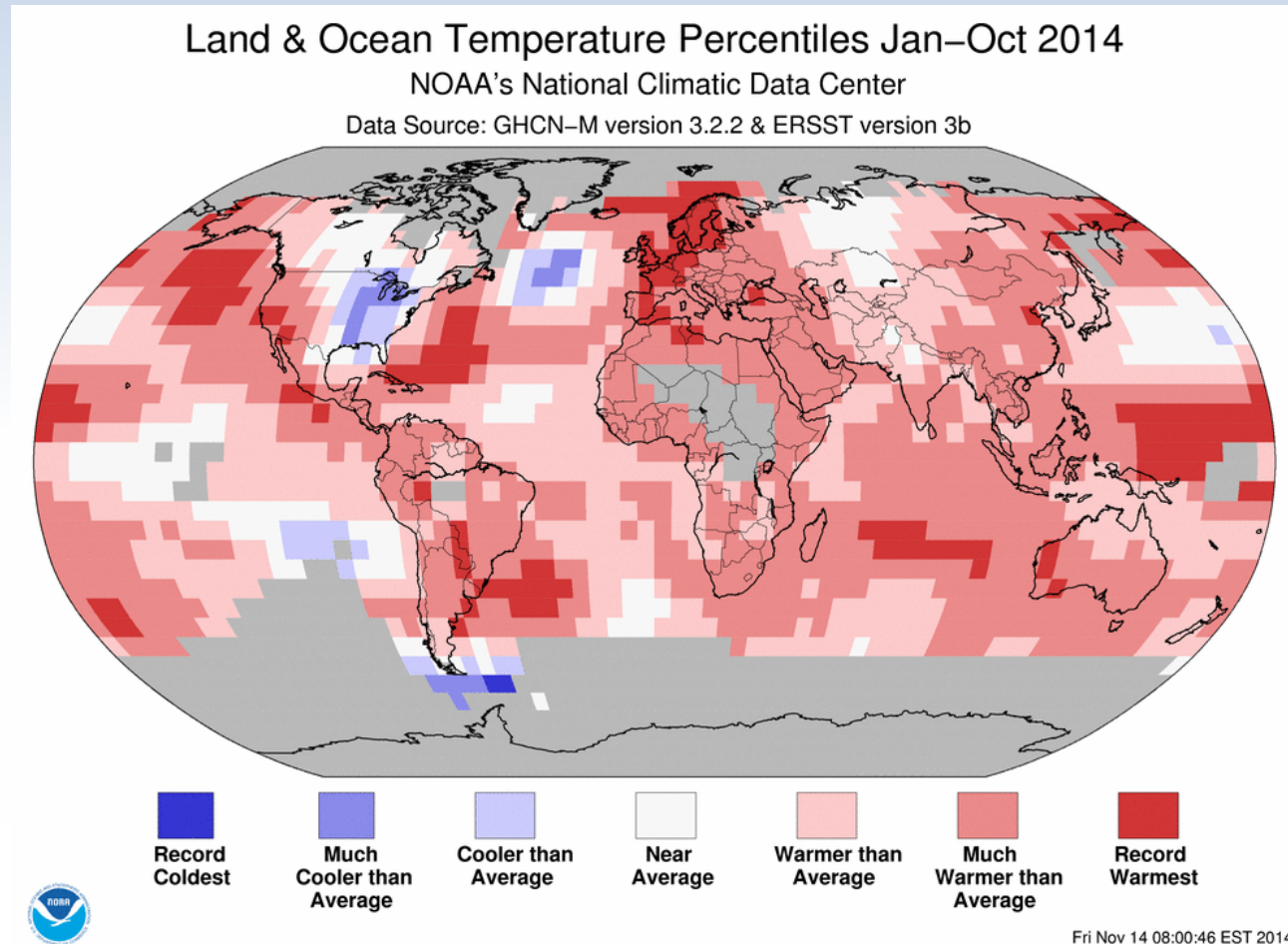
- October $+1.33^{\circ}\text{F}$ warmer than 20th century average
 - Warmest Oct on record
- Land: $+1.89^{\circ}\text{F}$ (5th warmest)
- Ocean: $+1.12^{\circ}\text{F}$ (warmest)
 - 6th consecutive month (starting in May) with record warm oceans



The global temperature record dates to 1880 (135 years)

Global Temperature: Year-to-Date 2014

- Global temperature +1.22°F warmer than 20th century average:
 - warmest Jan-Oct on record
- Land: +1.75°F (tied, 4th warmest)
- Ocean: +1.03°F (warmest)

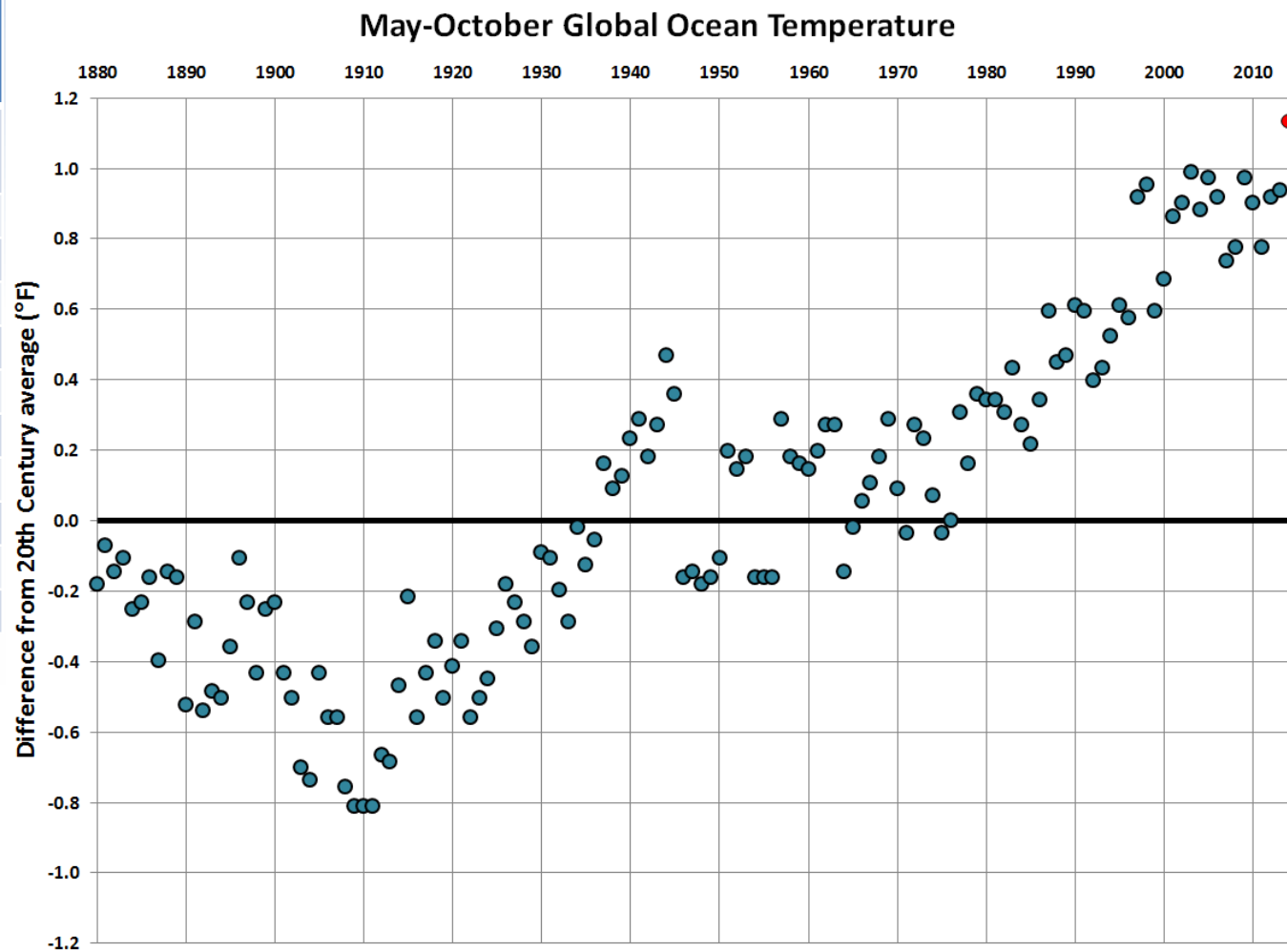


The global temperature record dates to 1880 (135 years)

Recent Global-Scale Warmth: Driven by Ocean Temperatures

Warmest Months on record: Ocean Temperature

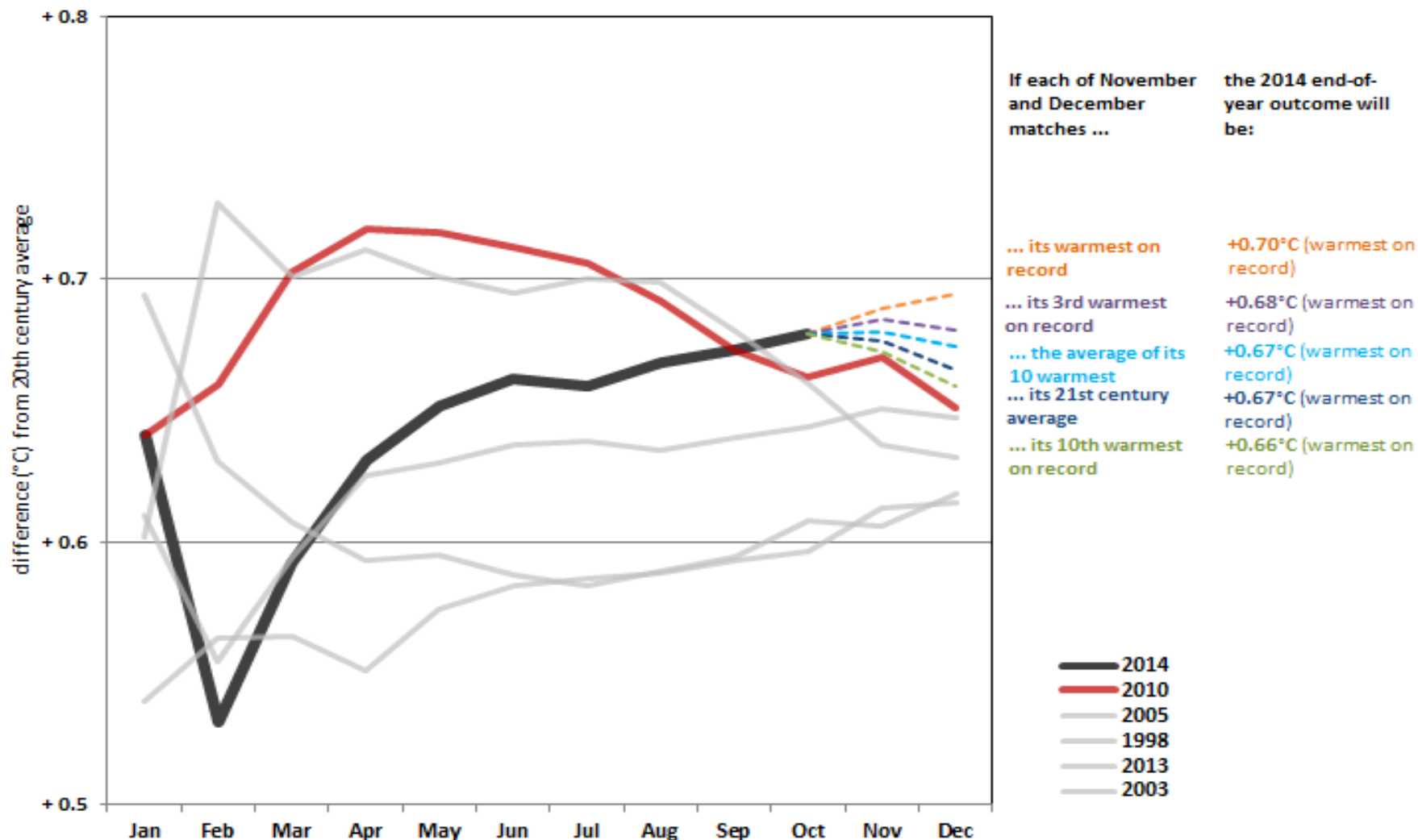
| Rank | Month | Difference from 20 th Century Avg |
|------|----------|--|
| 1 | Sep 2014 | 1.19°F (0.66°C) |
| 2 | Aug 2014 | 1.18°F (0.65°C) |
| 3 | Oct 2014 | 1.12°F (0.63°C) |
| 4 | Jun 2014 | 1.12°F (0.62°C) |
| 5 | Jul 2014 | 1.10°F (0.61°C) |
| 6 | May 2014 | 1.06°F (0.59°C) |
| | Jul 2009 | 1.06°F (0.59°C) |
| | Jun 1998 | 1.06°F (0.59°C) |
| | Oct 2003 | 1.06°F (0.59°C) |
| 10 | Jul 1998 | 1.05°F (0.58°C) |



Global Climate: End of Year Scenarios

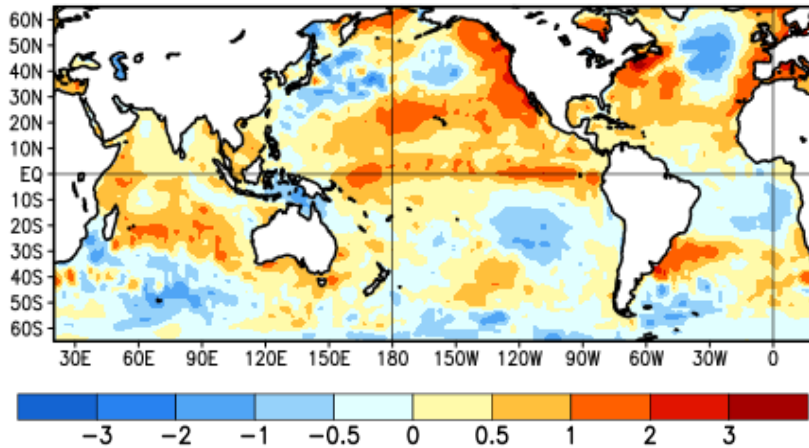
Year-to-Date Global Temperature

end of year scenarios for 2014 vs. the five warmest years on record



Sea Surface Temperatures and ENSO

Average SST Anomalies
19 Oct 2014 – 15 Nov 2014



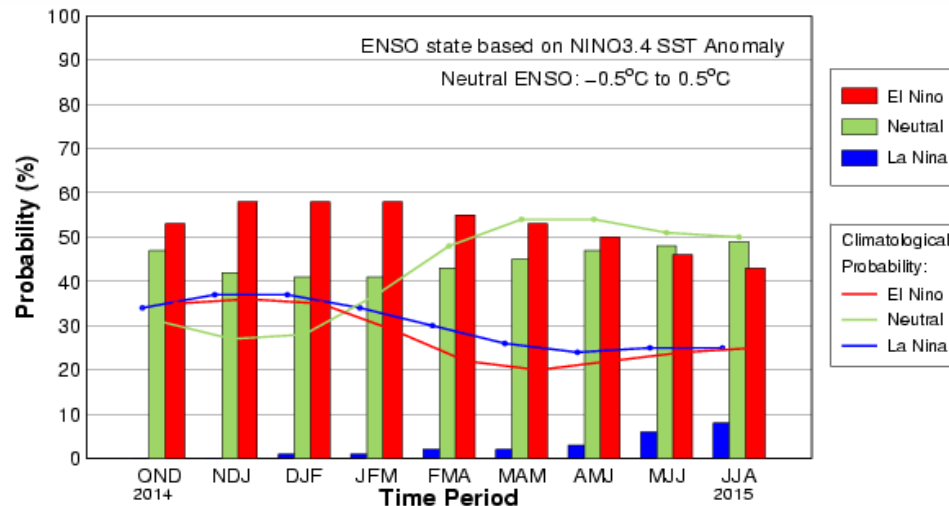
- Sea surface temperatures

- Above normal SSTs across the equatorial Pacific
- Above normal SSTs along the west coast of North America

- ENSO forecast

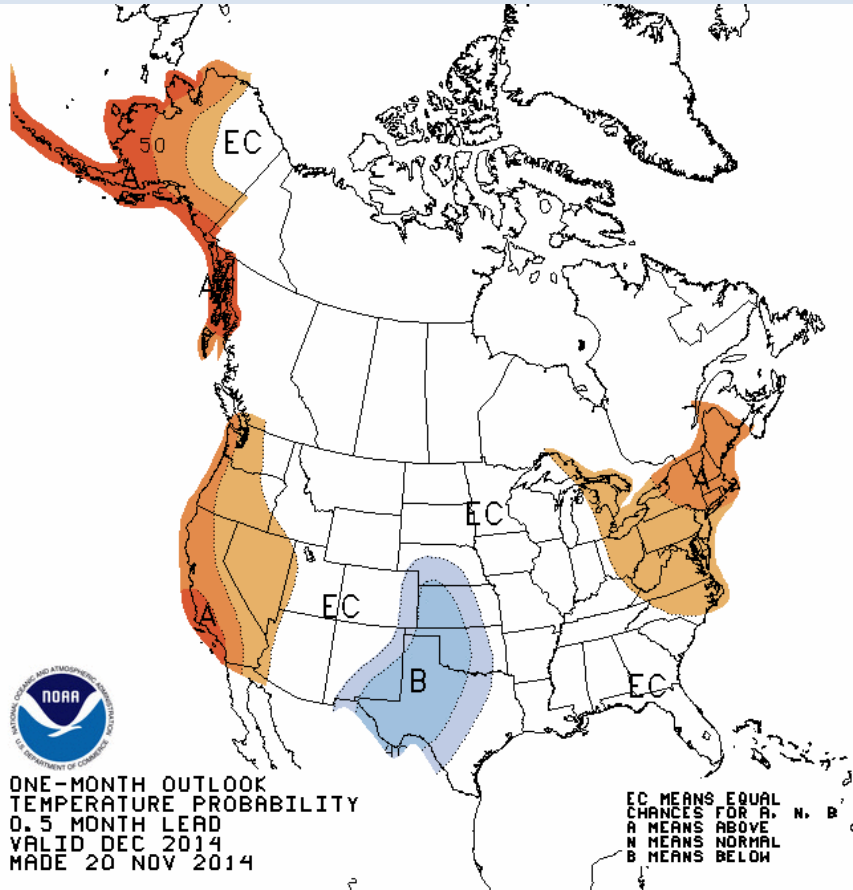
- 58% chance of El Nino
- Anomalies between +0.5 C and +1.0 C, favors a weak El Nino

Early Nov CPC/IRI Consensus Probabilistic ENSO Forecast

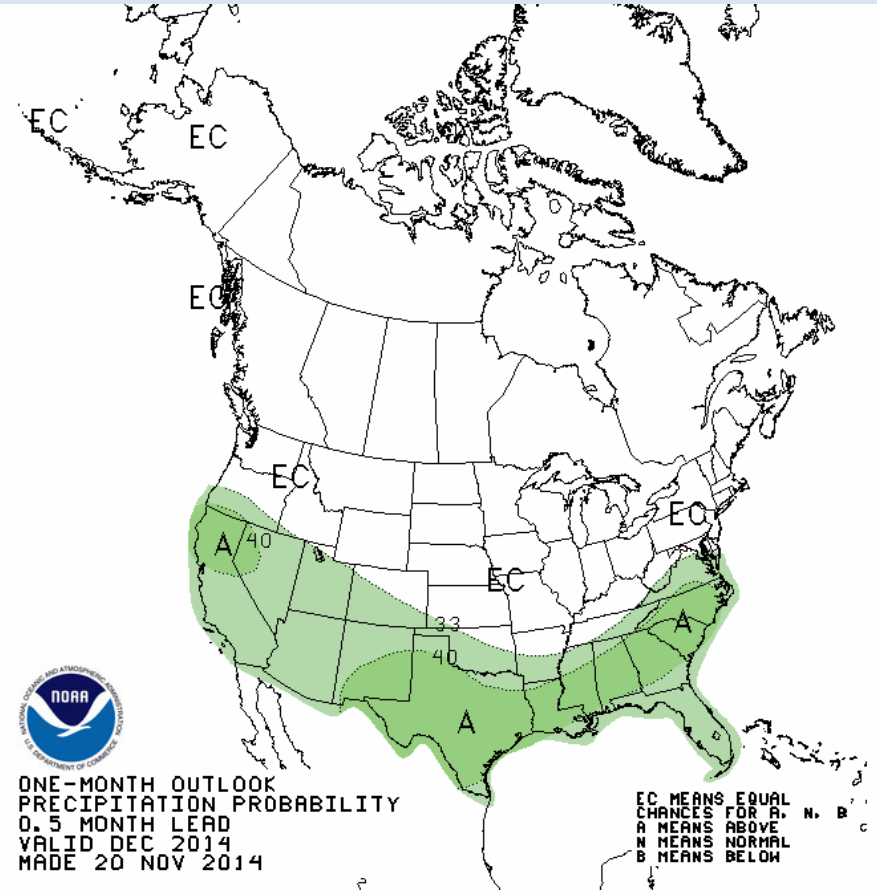


Monthly Forecast (December)

December Average Temperature Probability

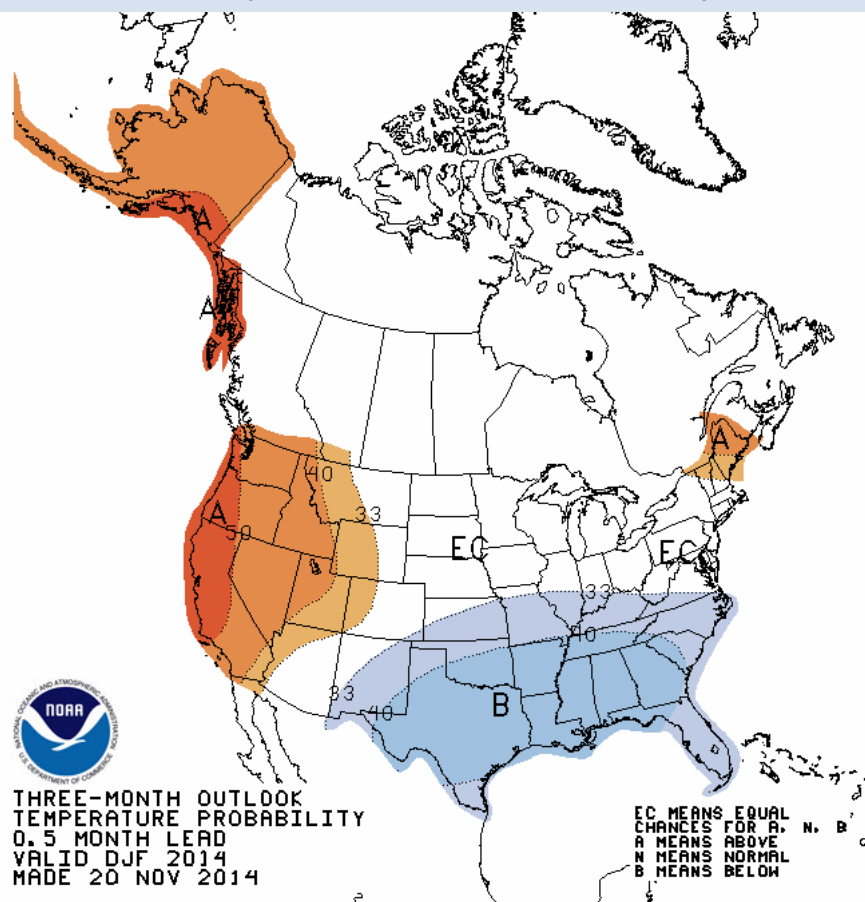


December Total Precipitation Probability

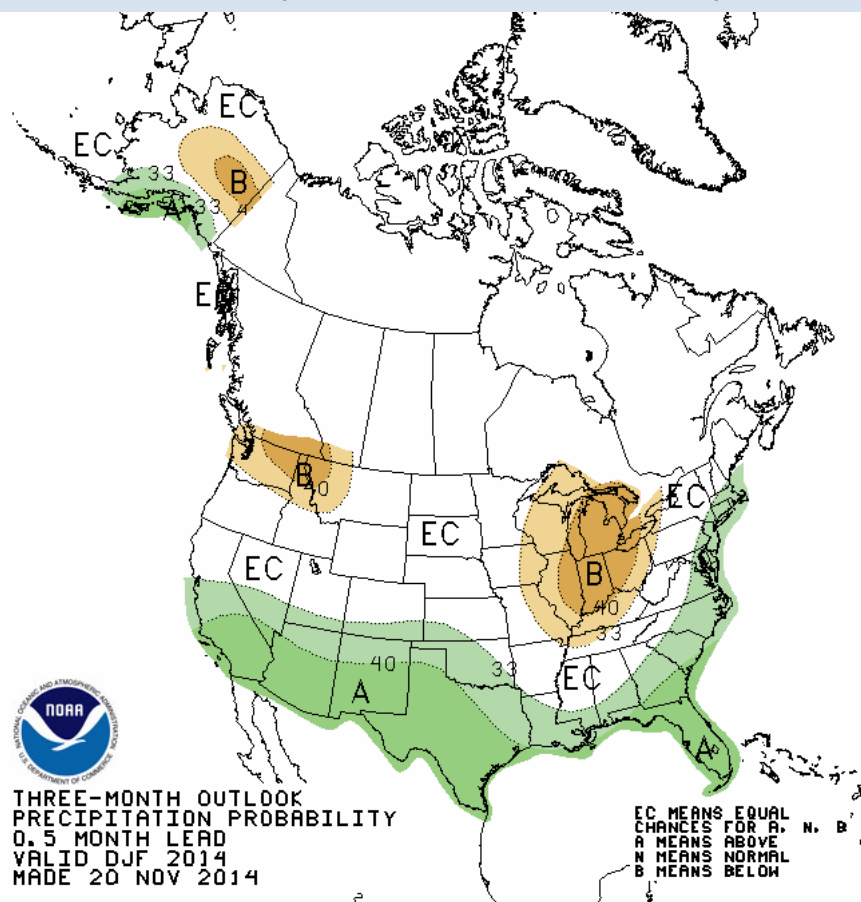


Seasonal Forecast (Dec-Jan-Feb)

Dec-Jan-Feb Average Temperature Probability



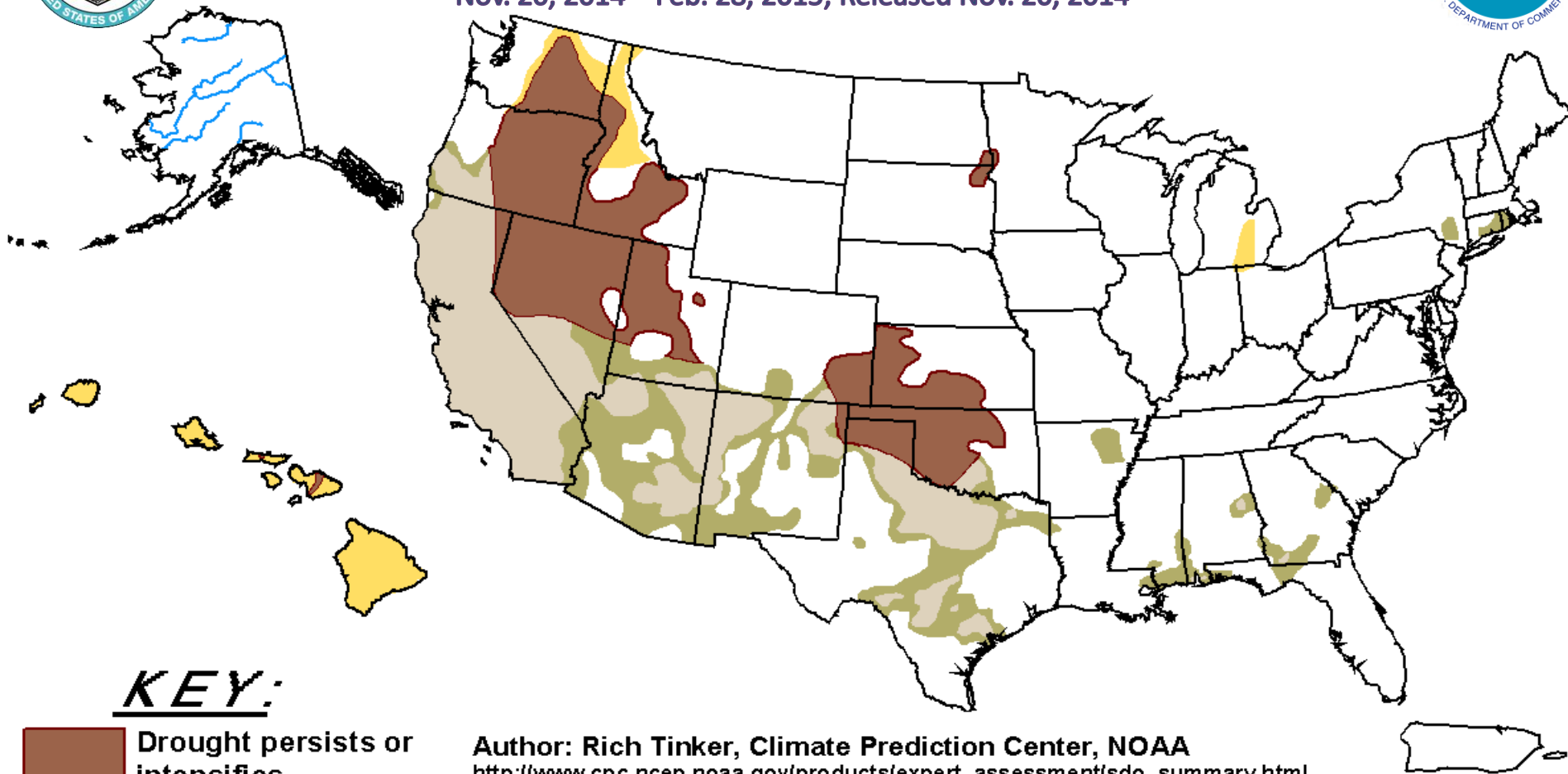
Dec-Jan-Feb Total Precipitation Probability









U.S. Drought Outlook

Drought Tendency During the Valid Period
Nov. 20, 2014 – Feb. 28, 2015; Released Nov. 20, 2014



KEY:

-  Drought persists or intensifies
-  Drought remains but improves
-  Drought removal likely
-  Drought development likely

Author: Rich Tinker, Climate Prediction Center, NOAA

http://www.cpc.ncep.noaa.gov/products/expert_assessment/sdo_summary.html

Depicts large-scale trends based on subjectively derived probabilities guided by short- and long-range statistical and dynamical forecasts. Short-term events -- such as individual storms -- cannot be accurately forecast more than a few days in advance. Use caution for applications -- such as crops -- that can be affected by such events. "Ongoing" drought areas are approximated from the Drought Monitor (D1 to D4 intensity).

For weekly drought updates, see the latest U.S. Drought Monitor.

NOTE: The tan area areas imply at least a 1-category improvement in the Drought Monitor intensity levels by the end of the period although drought will remain.

The Green areas imply drought removal by the end of the period (D0 or none)

For More Information



TODAY'S PRESENTATION:

- <http://www.ncdc.noaa.gov/sotc/briefings>

NOAA's National Climatic Data Center: www.ncdc.noaa.gov

- Monthly climate reports (U.S. & Global): www.ncdc.noaa.gov/sotc/
- Dates for upcoming reports: <http://www.ncdc.noaa.gov/monitoring-references/dyk/monthly-releases>

NOAA's Climate Prediction Center: www.cpc.ncep.noaa.gov

U.S. Drought Monitor: <http://drought.gov>

Climate Portal: www.climate.gov

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